

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
4 August 2005 (04.08.2005)

PCT

(10) International Publication Number
WO 2005/071418 A3

- (51) International Patent Classification⁷: **G01N 33/68**, (81) Designated States (*unless otherwise indicated, for every kind of national protection available*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (21) International Application Number:
PCT/EP2004/052684
- (22) International Filing Date: 28 October 2004 (28.10.2004)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
60/514,917 29 October 2003 (29.10.2003) US
- (71) Applicant (*for all designated States except US*): **EVOTEC NEUROSCIENCES GMBH [DE/DE]**; Schnackenburgergasse 114, 22525 Hamburg (DE).
- (72) Inventors; and
- (75) Inventors/Applicants (*for US only*): **VON DER KAMMER, Heinz [DE/DE]**; Verbindungsstr. 6d, 22607 Hamburg (DE). **POHLNER, Johannes [DE/DE]**; Quittenweg 11, 22175 Hamburg (DE). **HESTERKAMP, Thomas [DE/DE]**; Nordhäuser Weg 18, 22455 Hamburg (DE). **EBNETH, Andreas [DE/DE]**; Aschhooptwiete 30F, 25421 Pinneberg (DE).
- (74) Agents: **MEYERS, Hans-Wilhelm et al.**; P.O. Box 10 22 41, 50462 Cologne (DE).

Published:

- *with international search report*
- *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

(88) Date of publication of the international search report:
29 September 2005

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

WO 2005/071418 A3

(54) Title: **DIAGNOSTIC AND THERAPEUTIC USE OF THE HUMAN DAX- 1 GENE AND PROTEIN FOR NEURODEGENERATIVE DISEASES**

(57) Abstract: The present invention discloses the differential expression of a cytosolic sulfotransferase in specific brain regions of Alzheimer's disease patients. Based on this finding, this invention provides a method for diagnosing or prognosticating a neurodegenerative disease, in particular Alzheimer's disease, in a subject, or for determining whether a subject is at increased risk of developing such a disease. Furthermore, this invention provides therapeutic and prophylactic methods for treating or preventing Alzheimer's disease and related neurodegenerative disorders using a gene coding for DAX-1. A method of screening for modulating agents of neurodegenerative diseases and recombinant animal models are also disclosed.